

横断山区豆科新分类群和新组合

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NEW TAXA AND COMBINATIONS OF FABACEAE FROM HENGDUAN MOUNTAINS

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关键词 豆科; 木蓝属; 高山豆属; 黄芪属; 棘豆属; 山蚂蝗属; 葛属; 新分类群; 新组合

Key words Leguminosae; *Indigofera*; *Tibetia*; *Astragalus*; *Oxytropis*; *Desmodium*; *Pueraria*; New taxa; New combinations

近年来中国科学院青藏高原综合科学考察队采集到大量植物标本。作者最近承担编写《横断山区植物》一书的豆科, 在编写过程中, 发现了一些新种、新组合等, 现在本文发表¹⁾。

木蓝属 *Indigofera* L.

绢毛木蓝 新种 图1

Indigofera neosericipetala P. C. Li, sp. nov.

Ab *I. sericophylla* Franch. ramulis juventute sparse pubescentibus, foliolis utrinque adpresse albo-pubescentibus, corolla pubescenti differt.

Frutex; ramuli primo adpresse medifixe albo-pubescentes, mox glabrescentes, angulati. Folia 3-foliolata, c. 20 mm longa, petiolo 10—12 mm longo sparse pubescenti suffulta; stipulae lanceolatae, 2 mm longae, sparse pubescentes, brunneae; foliola oblonga, c. 11 mm longa, 6 mm lata, utrinque dense adpresse medifixe albo-pubescentia, apice rotundata mucronata, basi subrotundata. Racemi axillares,

5—6 cm longi, pedunculo 4—5 mm longo sparse pubescenti suffulti, pedicelli 0.8 mm longi, bracteae paulo ultra 1 mm. longae, cito deciduae. Calyx c. 2 mm longus, pubescens; lobi deltoidei, 1 mm longi. Corolla purpurea; vexillum late oblongum, 7.5 mm longum, 5 mm latum, apice emarginatum, basi exungiculatum; alae 7—7.5 mm longae, 2 mm latae; carinae 7.5—8 mm longae, 2 mm latae; ovarium dense pubescens.

Yunnan (云南): Yongsheng (永胜), alt. 2000 m, inter fructices Quercis in declivitatibus convallium fluminis Jinsha Jiang (金沙江), 2 Jun 1981, Exped. Qinghai-Xizang. (青藏队) 655. (Holotypus, PE).

本种接近丝毛木蓝 *I. sericophylla* Franch. 但本种小枝在幼时疏被柔毛, 小叶两面被白色平伏的柔毛, 花冠被毛可与后者区别。

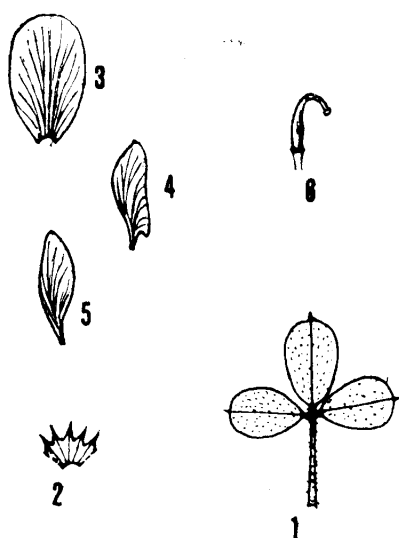


图1 绢毛木蓝 *Indigofera neosericipetala* P. C. Li, 1.三出复叶; 2.花萼; 3.旗瓣; 4.翼瓣; 5.龙骨瓣; 6.子房。
(张泰利绘)

高山豆属 *Tibetia* (Ali) H. P. Tsui

蓝花高山豆 (变型)

Tibetia tongolensis (Ulbr.) H. P. Tsui f. *coelestis* (Diels) P. C. Li, stat. nov. — *Astragalus coelestis* Diels in Not. Bot. Gard. Edinb. 8: 263. 1914. — *Amblytropis coelostis* (Diels) C. Y. Wu et H. P. Tsui in 111. Princ. Pl. Chin., Legum. 364, fig. 358. 1955. — *Tibetia togolensis* (Ulbr.) H. P. Tsui in Bull. Bot. Lab. North-East. For. Inst. 5 (5): 51. 1979.

四川: 木里, 林下, 海拔3500 m, 俞德浚6331; 九龙, 山坡, 海拔2900 m, 管中天34—0123; 康定, 方文培11175; 道孚, 管中天60077。

云南: 丽江, 山坡草地, 海拔3100 m, 俞德浚15125; 维西, 草坡, 海拔3200 m, 冯国楣4614; 中甸, 沟谷云杉林下, 海拔3420 m, 青藏队81—957; 德钦, 山坡, 海拔3500 m, 于启无69712。

西藏: 察隅, 山坡草地, 青藏队73—390。

分布: 云南西北部、四川西部和西南部、西藏东南部。

中甸高山豆

Tibetia forrestii (Ali) P. C. Li, comb. nov. — *Gueldenstaedtia forrestii* Ali in Candollea 18: 153, fig. 52. 1964.

云南: 中甸, 高山松和高山栎林下, 海拔3150—3200 m, 青藏队81—2019.

分布: 云南西北部

凉山高山豆 新种 图 2

Tibetia liangshanensis P. C. Li, sp. nov.

A *T. forrestii* (Ali) P. C. Li caulibus 15—25 cm altis, foliolis pluribus, corolla purpurea differt.

Herba perennis. Radix crassa, lignosa. Caules 15—25 cm alti, villis patentibus dense vestiti. Folia cum petiolo dense villosa 2—5 cm longo; 10—12 cm longa, stipulae ovatae, 10—11 mm longae, 6.5—7 mm latae, supra glabrae, dense brunneo-punctatae, subtus dense villosae, apice acutae, inter se liberac; foliola 13—17, obovato-oblonga, 13—23 mm longa, 9—15 mm lata, supra glabra, subtus juventute secus nervos et margines dense villosa, demum glabrescentia. Racemi subcapitati, 3-flori, pedunculis c. 5 cm longis dense villosis; bracteae lanceolatae, c. 4 mm longae, villosae; calyx campanulatus, 4.5—5 mm longus, villosus, dentibus lanceolatis tubo subaequilongis, 2 posticis alte connatis. Corolla purpurea; vexillum late ovatum cum ungui 3 mm longo c. 10 mm longum 8 mm latum, apice emarginatum, basi in unguem contractum; alae late obovato-oblongae, 8 mm longae, 4 mm latae; carinae late oblongae, 4.2 mm longae, 2 mm latae; ovarium dense albo-pubescent. Legumen cylindricum, c. 2 cm longum, dense pubescens.

Sichuan (四川): Zhaojue (昭觉), mons Wawashan (瓦瓦山), alt. 2900 m, in pinetis, 23 Jun. 1982, Tang Zong-xiao (汤宗孝), Tian Xiao-wen (田效文) et Sun Qing-guo (孙庆国) 127 (Holotypus, PE); eodem loco, Jiefanggou (解放沟), alt. 2800 m., in declivitatibus, 15 Sept. 1983, Zhou Jian-yong (周建勇) 21.

本种与中甸高山豆 *T. forrestii* (Ali) P. C. Li 接近, 但本种茎高15—25 cm, 小叶数目较多, 花冠紫色可与后者区别。

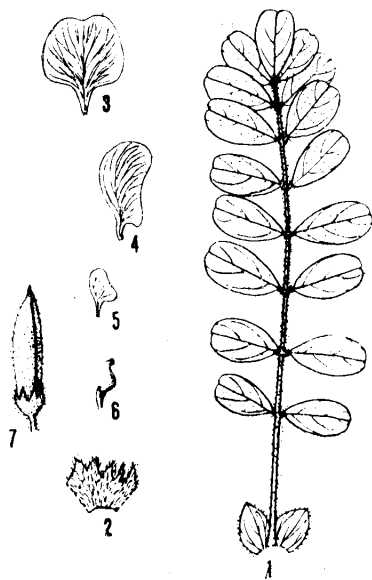


图 2 凉山高山豆 *Tibetia liangshanensis* P. L. Li

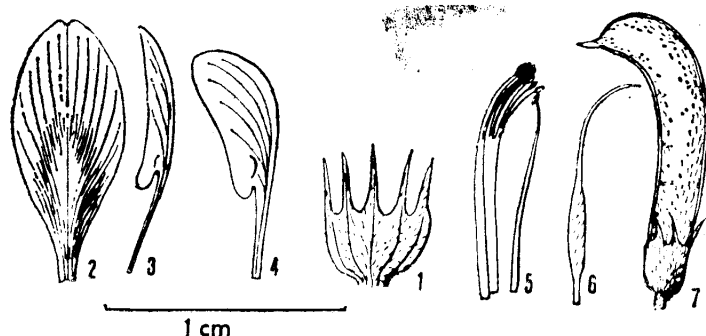
1. 羽状复叶和托叶; 2. 花萼; 3. 旗瓣; 4. 翼瓣; 5. 龙骨瓣; 6. 子房; 7. 荚果。(张泰利绘)

黄芪属 *Astragalus* L.

米亚罗黄芪 新种 图3

Astragalus miyalomontis P. C. Li, sp. nov.(Subgen. *Cercidothrix* Bge.)

Ab *A. nivalis* Kar. et Kir. calyce post anthesin haud inflato, corolla rubella vel rubra, legumine falcato-cylindrico differt.

图3 米亚罗黄芪 *Astragalus miyalomontis* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房; 7.荚果。(刘春荣绘)

Herba perennis, partibus omnibus pilis albis medifixis adpressis dense vestita. Caules caespitosi, 10—20 cm alti. Folia petiolis 4—6 mm longis inclusis 1.5—2.5 cm longa, stipulae triangulari-ovatae c. 3 mm longae, inter se ad medium connatae, foliola 9—15, obovato-elliptica, 2.5—3.5 mm longa, 1.5—2 mm lata, apice emarginata, basi cuneata. Racemi subumbellati, 4—7-flori, pedunculis 1—1.8 cm longis; bracteae lanceolatae, 1 mm longae; bracteolae nullae. Calyx campanulatus, c. 4 mm longus, dentibus subulatis tubo leviter brevioribus. Corolla rubella vel rubra; vexillum ovato-ellipticum, c. 1 cm longum apice rotundatum emarginatum, basi in unguem sensim attenuatum, alae 10 mm longae, 1.5 mm latae, carinae 8 mm longae, 2 mm latae; ovarium glabrum, longe stipitatum, uniloculare. Legumen falcato-cylindricum, 1.1—1.2 cm longum, 2 mm latum, stipitatum; stipe tubo calycis subaequilongus.

Sichuan (四川): Li Xian (理县), mons Miyaloshan (米亚罗山), alt. 2500 m. in declivitatibus, 30 May 1961, Jiang Shu (姜恕) 7151 (Holotypus PE); Maowen (茂汶) Zha-Gu-Nao (札古脑), alt. 1900 m., inter frutices aridos in locis apricis, 11 Jun. 1959. Jiang Shu (姜恕) et Chin Tsen-li (金存礼) 724.

本种与白雪黄芪 *A. nivalis* Kar. et Kir. et Kir. 接近, 但本种花萼在花后不膨

大，花冠淡红色或红色，荚果镰状圆柱形可与后者区别。

山地黄芪

Astragalus montigenus (Hand.-Mazz.) Cheng f. comb. nov. — *A. bhotanensis* Baker var. *montigenus* Hand.-Mazz. Symb. Sin. 7 : 558. 1933.

四川：木里，林缘草地，海拔3200m，俞德浚7373；甘孜，云杉林缘，海拔3250m，陈伟烈等7225；南坪，四川中药研究所622。

云南：丽江，海拔3500—3700 m. H. Handel-Mazzetti 7027 维西，叶枝后山，草地，海拔3300—3600 m. G. Forrest 12979；德钦、林下、海拔3250 m. 俞德浚9983。

分布：云南西北部、四川西部、西南部。

九叶黄芪 新种 图4

Astragalus enneaphyllus P. C. Li, sp. nov.

(Subgen. *Pogonophace* Bae.)

Ab *A. pastorio* Tsai et Yu caulibus prostratis, ovario glabro, stylo superne ventralo pubescenti differt.

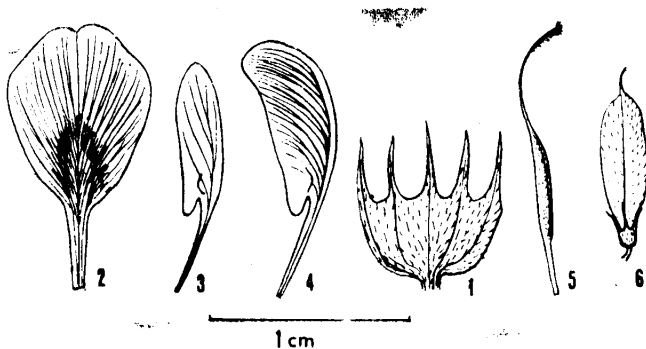


图4 九叶黄芪 *Astragalus enneaphyllus* P. C. Li

1.花萼；2.旗瓣；3.翼瓣；4.龙骨瓣；5.子房；6.荚果。（刘春荣绘）

Herba perennis, multicaulis. Caules prostrati, 40—50 cm longi, pilosi mox glabrescentes. Folia cum petiolis pilosis 1—1.5 cm longis 4—7 cm longa, stiptilae lanceolatae, c. 3 mm longae, inter se et a petiolo liberae; foliola 7—9, alterna oblonga vel obovato-oblonga, 1.3—1.5 cm longa, 5—6 mm lata, supra glabra, subtus villosa, apice subrotundata vel emarginata mucroata, basi cuneata vel late cuneata. Racemi pedunculis pilosis, 2.5—3.5 cm longis inclusis 3.5—4.5 cm longi, 3—5-flori; bracteae lanceolatae, 3—3.5 mm longae, pilosae; bracteolae subulatae, 2 mm longae. Calyx campanulatus, 7—7.5 mm longus, albo-et nigro-pilosus, dentibus subulatis tubo aequilongis. Corolla pallide caerulea; vexilli limbus suborbicularis, in unguem angustum contracta, 9 mm longa 8 mm lata, ungui 4.5 mm longo, apice emarginata; alae 1.2 cm longae, 2 mm latae; carinae 13.5 mm longae, 3.5 mm latae; ovarium glabrum, longe stipitatum, uniloculare; stylus

superne ventre pubescens, stigma barbatum. Legumen ellipticum, 2.5—2.8 cm longum, 8—9 mm latum, subinflatum, pilosum; stipes tubo calycis subaequilongus.

Yunnan (云南): Gongshan (贡山), Dulongjiang (独龙江), Longdigeng (龙迪耿) ad Nandai (南代), alt. 2200 m., in arenosis prope rivolos, 4 Sept. 1982, Exped. Qinghai-Xizang. (青藏队) 9904 (Holotypus PE).

本种接近马豆黄芪 *A. pastorius* Tsai et Yu, 但本种的茎平卧, 子房无毛, 花柱上部腹面被毛可与后者区别。

仁昌黄芪 新种 图 5

Astragalus chingianus P. C. Li, sp. nov.

(Subgen. *Pogonophace* Bge.)

Ab *A. tribulifolio* Benth. ex Bge. foliolis utrinque pubescentibus, bracteis ellipticis, bracteolis ad 4 mm longis, calycis tubo subaequilongis differt.

Herba perennis. Caules 18—28 cm alti, dense albo-pubescentes. Folia cum petiolis dense albo-et nigro-pubescentibus 1—3 mm longis 2.5—3 cm longa; stipulae ovatae vel ovato-lanceolatae, 3.5—5 mm longae, utrinque dense pubescentes; foliola 15—19, oblonga, 6—7 mm longa, 2.5—3 mm lata, apice rotundata vel acute, basi subrotundata, utrique dense albo-pubescentia. Racemi cum pedunculis dense nigro-pubescentibus 9—11 mm. longis 2 cm longi, 3—7-flori; bractea ellipticae, c. 5 mm longae, 1.5 mm latae, supra parce subtus dense pubescentes; bracteolae lineares, c. 4 mm longae, calycis tubo subaequilongae, laxae albo-et nigro-pubescentes. Calyx campanulatus, c. 8 mm longus dense nigro-pubescent, dentibus subulatis tubo subaequilongis. Corolla purpurea; vexillum subrotundatum, 12 mm longum, 10 mm latum, apice rotundatum emarginatum, basi in unguem brevem 1.5—2 mm longum contractum alae 10 mm longae, 3 mm latae, apice leviter retusae; carinae 11 mm longae, 4.5 mm latae; ovarium glabrum, breviter stipitatum. Legumen ellipticum 1.7 cm longum, 5 mm latum, laxae albo-et nigro-pubescent, breviter stipitatum, uniloculare.

Yunnan (云南): Heqing (鹤庆),

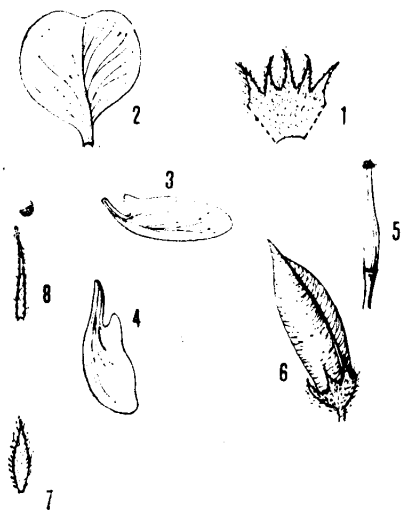


图 5 仁昌黄芪 *Astragalus chingianus* P.C.Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.子房;
6.荚果; 7.苞片; 8.小苞片。(张泰利绘)

Daqin (大箐), in pratis, 2 Aug. 1940, Ching Ren-chang (秦仁昌) 23519 (Holotypus PE).

本种与蒺藜黄芪 (*A. tribulifolius* Benth. ex Bge.) 接近, 区别在于本种的叶两面被毛, 苞片椭圆形, 小苞片长达 4 mm, 与萼管近于等长。

耐旱黄芪 新种 图 6

Astragalus siccanus P. C. Li, sp. nov.

(Subgen. *Pogonophace* Bge.)

Ab *A. sanbilingensi* Tsai et Yu floribus majoribus ad 15 mm longis, legumine cylindrico differt.

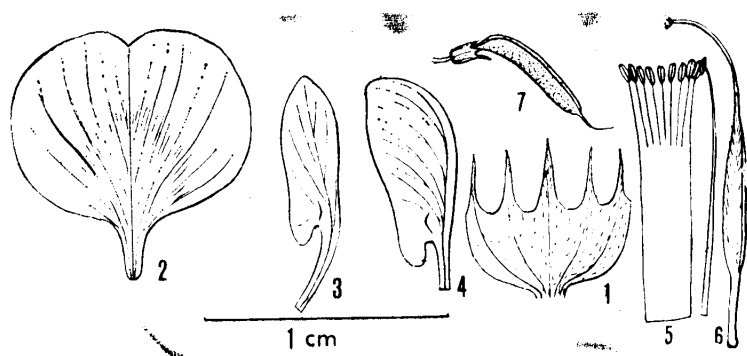


图 6 耐旱黄芪 *Astragalus siccanus* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房; 7.荚果 (原大)。(刘春荣绘)

Herba perennis. Caules 20—50 cm alti, erecti vel decumbentes, juventute pilosi mox glabrescentes. Folia cum petiolis pilosis 3—4 mm longis 4—5 cm longa, stipulae lineari-subulatae, 3—4 mm longae, sparse pilosae; foliola. 11—17, oblonga vel ovato-oblonga, 5—13 mm longa, 4—7 mm lata, supra glabra, subtus albo-pilosa, apice rotundata vel truncata, mucronata. Racemi pedunculis glabris 5—9 cm longis inclusis 6—11 cm longi, laxe 2—3-flori; bractae lanceolatae, 2 mm longae, pilosae. Calyx tubuloso-campanulatus, 7—8 mm longus, albo-pilosus, dentibus triangulato-lanceolatis, tubo brevioribus. Corolla rosea vel purpurea; vexillum late rotundatum, cum ungui 4 mm longo 14—14.5 mm longum, 11 mm latum, apice emarginatum, basi in ungucem brevem contractum; alae 12 mm longae, 2.5—3 mm latae; carinae alis leviter longiores, 14—14.5 mm longae, 4—5 mm latae; ovarium dense albo-pubescens, longe stipitatum. Legumen cylindricum, leviter curvatum, 2.5—3 cm longum, 4—5 mm latum, sparse albo-pubescens uniloculare.

Sichuan (四川): Yanyuan (盐源), Guabie (瓜别), Xiaojinhe (小金河), alt. 2300 m. inter frutices prope ripam, 28 Jul. 1983, Exped. Qinghai-Xizang. (青藏队) 12567 (Holotypus PE); Li Xian (理县), He Zhu (何铸) et Zhon Zi-

ling (周子林) 13555.

本种与乡城黄芪 *A. sanbilingensis* Tsai et Yu 接近, 区别在于本种花大, 长可达 15 mm, 荚果圆柱形。

线耳黄芪 新种 图 7

Astragalus lineariaurifer P. C. Li, sp. nov.

(Subgen. *Pogonophace* Bge.)

Ab *A. pastorio* Tsai et Yu foliolis lineari-lanceolatis vel lineari-ellipticis, utrinque villosis, calycum dentibus lineari-subulatis tubo longioribus, alae auricula oblanceolata differt.

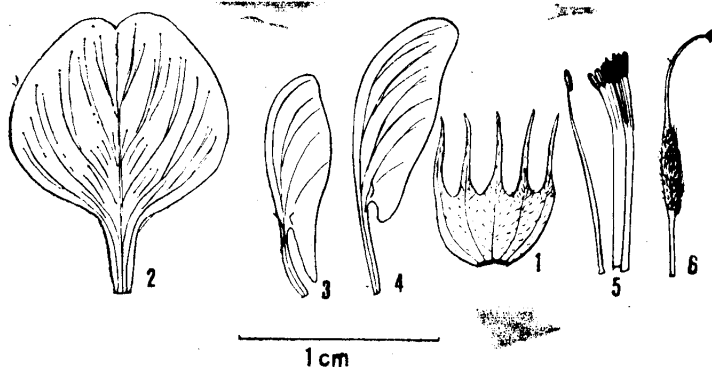


图 7 线耳黄芪 *Astragalus lineariaurifer* P. C. Li.

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房。(刘春荣绘)

Herba perennis multicaulis; rhizoma crassum ramosum. Caules 18—25 cm alti, villis albis nigrisque vestiti. Folia cum petiolis albo-et nigro-villosis 2—9 mm longis 4.5—5 cm, longa; stipulae lineari-lanceolatae, 4—6 mm longae, inter se et a petiolo liberae, villosae; foliola alterna vel subalterna, lineari-lanceolata vel lineari-elliptica, 1.6—2 cm longa, c. 4 mm lata, apice acuta, mucronata, basi subrotundata vel fere late cuneata, utrinque perae villosa. Racemi 5—6 cm longi (cum pedunculo albo-et nigro-villoso 4—5 cm longo), 4—6-flori; bracteae lineares, 9—10 mm longae; bracteolae subulatae, 2—2.5 mm longae, nigro-villosae. Calyx campanulatus, c. 8 mm longus, dens albo-et nigro-villosus, dentibus lineari-subulatis, tubo longioribus. Corolla caerulea (?); vexillum late ovatum, 1.3 cm longum, 1.1 cm latum, apice retusum, basi in unguem 3 mm longum abrupte contractum; alae 11 mm longae, 3.5 mm latae, apice rotundatae, basi auriculatae, auriculis oblanceolatis 2.8 mm longis, unguibus 4 mm longis; carinae 13 mm longae, 4 mm latae, auriculis obtusis, 1 mm longis, unguibus 4 mm longis; ovarium dense albo-et nigro-villosum, longe stipitatum; stigma conspicue barbatum. Legumen juvenile ellipticum, dense albo-villosum, uniloculare.

Sichuan (四川) : Yajiang (雅江), Mixiguo (米西沟), Zari (札日), alt. 3470 m., inter frutices Querci, 30 Jul. 1960, Guan Zhong-tian (管仲天) 41-0112 (Holotypus PE).

本种接近马豆黄芪 *A. pastorius* Tsai et Yu, 但本种的小叶线状披针形或线状椭圆形, 两面被毛, 萼齿线状锥形, 长于萼管, 翼瓣的耳倒披针形, 与后者有明显的区别。

长序黄芪 新种 图 8

Astragalus grubovii Cheng f., sp. nov. in herb.

(Subgen. *Phaca* Bge.)

Ab *A. degensi* Ulbr. subsp. *rockiano* (Pet.-Stib.) P. C. Li foliolis supra glabris, corolla luteola differt.

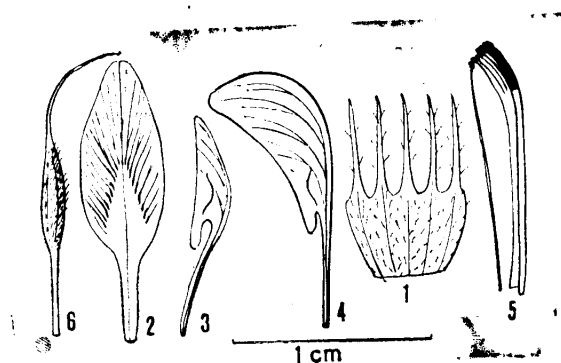


图 8 长序黄芪 *Astragalus grubovii* Cheng f.

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房。(刘春荣绘)

Herba perennis, erecta. Caules ramosi, ad 1 m alti, fistulosi, pilis albis adpressis parce vestiti. Folia 10—12 cm longa, petiolis 5—10 mm longis pilosis; foliola 15—21, opposita oblongo-lanceolata, 2.5—3 cm longa, 8—12 mm lata, apice retusa vel rotundata, mucronata, basi subcuneata, brevissime petiolulata, supra glabra, subtus pilosa; stipulae lineares, 5—6 mm longae, parce pilosae, inter se liberac. Racemi densi-et multiflori, 15—20 cm longi, pedunculis foliis subaequalibus, 9—11 cm longis, pilosis; bractae lineares, 5—6 mm longae; bracteolae nullae; pedicelli dense albo-et nigro-pilosi. Calyx campanulatus, 1 cm longus, albo-et nigro-pilosus, dentibus subulatis, c. 5 mm longis. Corolla clycem multo excedens, luteola; vexillum ellipticum, 15 mm longum, 4 mm latum, retusum, basi in unguem sensim attenuatum; alae unguibus 6 mm longis inclusis, 11 mm longae, 2 mm latae, apice acuminatae, basi auriculatae; carinae 13 mm longae, 4 mm latae, unguibus limbis leviter brevioribus; ovarium dense albo-et nigro-pubescent, longe stipitatum; stigma glabrum Legumen ignotum.

Yunnan (云南) : Deqen (德钦), mons Baimashan (白马山), alt. 3400 m.,

in sylvis, 9 Aug. 1937, T. T. Yu (俞德浚) 9463 (Holotypus PE); Sichuan (四川): Yanyuan (盐源), mons Huolushan (火炉山), alt. 3700 m, ad rupes in declivitatibus, 24 July 1983, Exped. Qinghai-Xizang. (青藏队) 12381.

本种接近大花窄翼黄芪 *A. degensis* Ulbr. subsp. *rockianus* (Pet.-Stib.) P. C. Li, 但本种小叶上面无毛, 花冠黄色可与后者区别。

马蹄黄芪 新种 图9

Astragalus matiensis P. C. Li, sp. nov.

(Subgen. *Phaca* Bge.)

Ab *A. degensi* Ulbr. stipulis ovatis, foliis oblongis, vexillo late ovato quam carinis longiore differt.

Herba perennis. Caules erectus, leviter striatus, superne pilis albis patulis laxe vestitus. Folia 11—13 cm longa, petiolis 8—10 mm longis; foliola 21—23, oblonga, 10—13 cm longa, 5—6 mm lata, supra laxe subtus dense patule albo-pilosa, apice subrotundata, emarginata; stipulae ovatae, 6—7 mm longae, inter se liberae, utrinque pilis paucis vestitae. Racemi multiflori; pedunculis 10—11 cm longis, pilis albis patulis instructis; bracteae ovatae, 3—4 mm longae, 1.2—1.7 mm latae, acuminatae, pilosae; pedicelli 1.5—2 mm longi, dense nigro-pilosi. Calyx campanulatus, c. 6 mm longus, pilis albis nigrisque longis dense instructus, dentibus 3 mm longis. Collora calycem multo excedens, caeruleo-purpurea, vexillum late ovatum, 8 mm longum, 7 mm latum, emarginatum basi in unguem 4 mm longum abrupt contractum; alae 9 mm longae, 1.5 mm latae, limbi apice acuti, basi obtuse auriculati, carinae 10.5 mm longae 4 mm latae, auriculis oblongis 1 mm longis; ovarium longe albo-pilosum longissime stipitatum. Legumen ignotum.

Sichuan (四川): Kangding (康定), Sade (沙德), Mati (马蹄), alt. 2750 m, ad marginem canalis, 29 May 1981, Jiang Shu (姜恕) 5026 (Holotypus PE).

本种接近窄翼黄芪 *A. degensis* Ulbr., 但本种托叶卵形, 小叶长圆形, 旗瓣宽卵形, 长于龙骨瓣可与后者区别。

尖齿宝兴黄芪 新变种

Astragalus davidii Franch. var. *acutidentatus* P. C. Li var. nov.

A var. *davidii* calycum dentibus lanceolato-subulatis differt.

Sichuan (四川): Luding (泸定), mons Gonggashan (贡嘎山), Yanziguo (燕

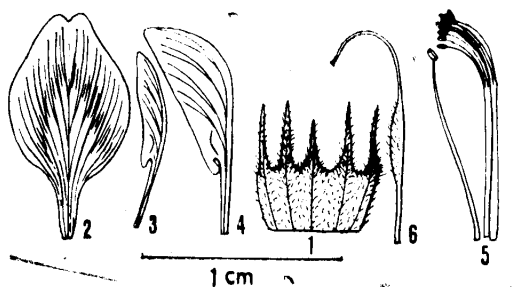


图9 马蹄黄芪 *Astragalus matiensis* P. C. Li.

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊;
6.子房。(刘春荣绘)

子沟), alt. 2200 m., prope canales in fruticibus prati, 24 Jun 1982, Lang Kai-yong (郎楷永), Li Liang-qian (李良千) et Fei Yong (费勇) 160 (Holotypus PE).

本变种与原变种的区别在于萼齿为披针状锥形。

卧龙黄芪 新种 图10

Astragalus wolungensis P. C. Li, sp. nov.

(Subgen. *Phaca* Bge.)

Ab *A. davidii* Franch. corolla luteola, alis carinis subaequilongis differt.

Herba perennis. Caules decumbentes, 15—25 cm alti, graciles, glabri, rubropurpurati. Folia petiolis pilosis 2—3 mm longis inclusis 4—5 cm longa; foliola 15—17, opposita, elliptica, 7—9 mm longa, 3—4 mm lata, supra glabrescentia, dense punctata, subtus pilosa, margine involuta, apice acuta, basi cuneata; stipulae lanceolatae, 3—4 mm longae, subglabrae, apice acuminatae pediculis breviter adnatae, demum inter se liberae. Racemi capitati, 3—4-flori; pedunculis 2—3 cm longis, pilosis; bractae subulatae, 1 mm longae, pilosae; bracteolae nullae; pedicelli c. 1 mm longi, parce pilosi. Calyx campanulatus, 3—3.2 mm longus, pilis albis parce vestitus, dentibus triangulo-subulatis, inferioribus 1 mm longis, superioribus 0.5 mm longis. Corolla luteola, calycem multo superans; vexillum in unguem sensim attenuatum; alae 9.5 mm longae, 2 mm latae, auricula parva, unguibus limbis subaequilongis; carinae obtusae, 9 mm longae, 2 mm latae, unguibus limbis longioribus; ovarium longe stipitatum, glabrum; stigma glabrum. Legumen cylindricum c. 2 cm longum, glabrum, biloculare.

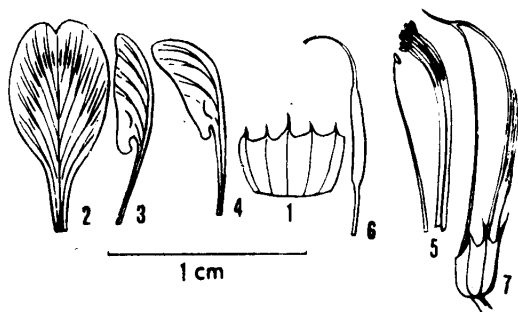


图10 卧龙黄芪 *Astragalus wolungensis* P. C. Li.

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊;
6.子房; 7.荚果。(刘春荣绘)

Sichuan (四川), Wenchuan (汶川), mons Wolungshan (卧龙山), 29 Jun. 1975, sine nomine collectoris 8088 (Holotypus PE).

本种与宝兴黄芪 *A. davidii* Franch., 但本种花冠黄色, 翼瓣与龙骨瓣等长可与后者区别。

旱生黄芪 新种 图11

Astragalus aridicola P. C. Li, sp. nov.

(Subgen. *Hypoglottis* Bge.)

Ab *A. conferto* Benth., foliis subrotundatis supra glabris, carinis quam alis longioribus latioribusque differt.

Radix crassa, simplex, lignosa. Caules multiramosi, abbreviati, inferne petio-

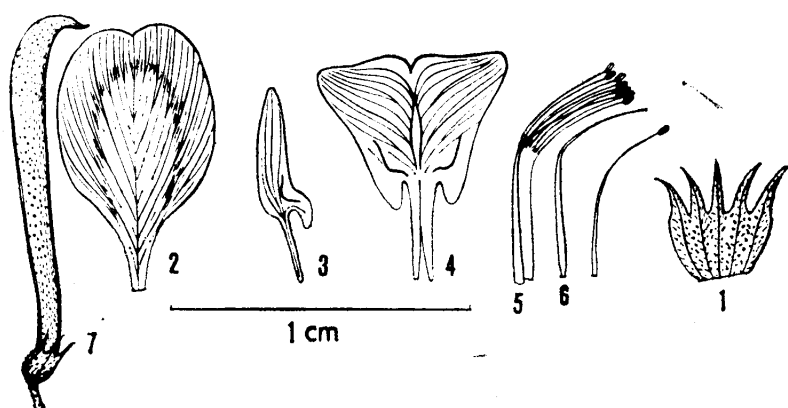


图11 旱生黄芪 *Astragalus aridicola* P. C. Li.

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房; 7.荚果。(刘春荣绘)

lorum residuis stipulisque quasi squamosi. Folia albo-villosa, petiolo incluso 3.5—5 cm longa; petioli 1.4—1.7 cm longi; stipulae membranceae, ovatae, 2 cm longae, a petiolo librae inter se ad medium connatae, parce villosae; foliola 7—13, late obovata vel subrotundata, 4—5 mm longa, 4.3—4.9 mm lata, supra glabra, dense punctata, subtus albo-villosa, apice rotundata vel emarginata, basi rotundata. Racemi subumbellati, 4—6-flori; pedunculis 2.5—3.5 cm longis, villosis; bractaeae 0.7 mm longae, subulatae, parce villosae; pedicelli 1 mm longi, dense villosi. Calyx campanulatus, 3 mm longus, pilis albis adpressis vestitus, dentibus triangularo-subulatis, tubo subaequilongis. Corolla calycem multo superans, carnea; vexillum late oblongum, 8.5 mm longum, apice rotundatum, emarginatum, basi in unguem attenuatum; alae 6.5 mm longae, 1 mm latae, apice obtusae; carinae 7 mm longae, 3 mm latae obtuse auriculatae; ovarium glabrum, breviter stipitatum. Legumen juvenile cylindricum, glabrum.

Sichuan (四川): Maowen (茂汶), N.-W. Gucheng (古城), 9 Jun. 1959, Jiang Shu (姜恕) et Chin Tsen-li (金存礼) 654 (Holotypus PE); Xizang (西藏): Zayu (察隅), Zawalong (察瓦龙) ad Dahong (达红), alt. 2300 m, inter frutices in declivitatibus, 28 Sept. 1982, Exped. Qinghai-Xizang. (青藏队) 10839.

本种与丛生黄芪 *A. confertus* Benth. 接近, 区别在于本种的小叶近圆形, 上面无毛, 龙骨瓣比翼瓣长而宽。

贡嘎黄芪 新种 图12

Astragalus gonggamontis P. C. Li, sp. nov.

(Subgen *Hypoglottis* Bge.)

Ab *A. sinico* L. foliolis 11—17, inflorescentis racemosis, carinis vexillo longioribus, leguminis stipite calycem longe superantibus, ovariis bilocularibus

differt.

Radix crassa, ramosa, lignosa. Caules caespitosi, erecti, ramosissimi, 17—20 cm alti, villosi, superne foliis dense obtekti. Folia petiolo incloso 2—3.5 cm longa parce albo-villosa; stipulae membranaceae, oblongae, 3—4 mm longae, inter se ad medium connatae; petioli c. 1 cm longi; foliola 11—17, oblonga, 3—6 mm longa, 1.5—3 mm lata, utrinque parce villosa, apice subrotundata emarginata, basi subrotundata. Racemi subumbellati, 3—5-flori, pedunculis ad 3—4 cm longis, folio subaequilongis, parce pilosis; bractae lanceolatae, 2 mm longae; pedicelli 1—2 mm longi, dense albo-villosi. Calyx campanulatus, 3.5—4 mm longus, parce albo-villosus, dentibus triangulo-subulatis tubo leviter brevioribus. Corolla calycem superans, subbrosea; vexillum late ovatum, 10 mm longum, 6 mm latum, apice rotundatum, basi in unguem sensim attenuatum; alae 10—10.5 mm longae, 8 mm latae, apice obtusae; carina 12 mm longa, 3 mm lata; ovarium glabrum, longe stipitatum. Legumen cylindricum, 3—3.5 cm longum, glabrum, apice in rostrum contractum, biloculare, stipite calycem longe superante.

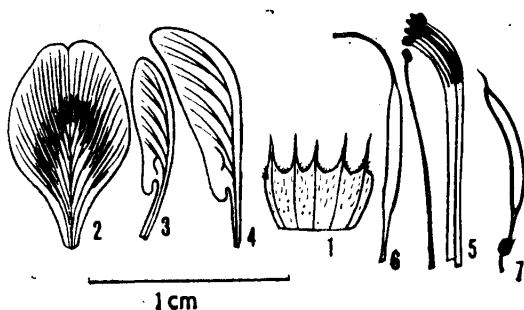


图12 贡嘎黄芪 *Astragalus gonggamontis* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊;
6.子房; 7.荚果(原大)。(刘春荣绘)

Sichuan (四川): Luding (泸定), mons Gonggashan (贡嘎山), Xingxing (新兴), Namenguo (南门沟), alt. 2100 m, in valle subalpina, 7 Jul. 1982, Lang Kai-yong (郎楷永), Li Liang-qian (李良千) et Fei Yong (费勇) 555 (Holotypus PE); eodem loco, Bazifang (捌子房), alt. 2300 m, sub sylvis mixtis, 23 Jun. 19, 1983, Group Veget. Inst. Biol. Chengdu (成都生物所植被组) 31169.

本种与紫云英 *A. sinicus* L. 区别在于本种之小叶11—17枚, 花序总状, 龙骨瓣长于旗瓣, 荚果之柄甚长于萼, 子房2室。

半圈黄芪 新种 图13

Astragalus semi-circularis P. C. Li, sp. nov.

(Subgen. *Hypoglottis* Bge.)

Ab *A. dulunghiangensi* P. C. Li, vexillo ovato legumine uniloculari differt.

Herba perennis. Caules diffusi, c. 15 cm alti, superne canaliculati, parce albo-pilosi, mox glabrescentes. Folia cum petiolis albo-pilosis 1.5—2 cm longis 4—5 cm longa; stipulae ovatae vel lanceolatae, 3—3.5 mm longae, inter se ad medium connatae a petiolo liberae, supra glabrae, subtus pilosae; foliola 13—15, elliptica,

6—7 mm longa, 3—3.5 mm lata, apice obtusa vel emarginata, supra subglabra, subtus secus costa et margines pilosa. Racemi subumbellati cum pedunculo piloso 2.5—4 cm longe 3.5—6 cm longi, 7—13-flori, bracteae subulatae, c. 1 mm longae.

Calyx campanulatus, 3 mm longus, dentibus subulatis, inaequilobis tubo subaequilongis. Corolla atropurpureo-caerulea; vexillum ovatum, 8 mm

longum, apice obtusum, emarginatum, basi in unguem 4 mm longum abrupte contractum; alae 6 mm longae, 1 mm latae, limbi apice rotundi; carinae, 8 mm longae 2.5 mm latae; ovarium dense albo-pilosum, longe stipitatum. Legumen falcatum, 12—14 mm longum, dense albo-pilosum, longe stipitatum, uniloculare.

Xizang (西藏): Zayu (察隅), Zawalung (察瓦龙), Dzer-nar (折那), alt. 3000 m., prope rivulos, C. W. Wang (王启无) 66344 (Holotypus PE).

本种接近于独龙黄芪 *A. dulungkiangensis* P. C. Li, 区别在于本种茎直立, 旗瓣卵形, 荚果1室。

独龙黄芪 新种 图14

Astragalus dulungkiangensis P. C. Li, sp. nov.

(Subgen. *Hypoglottis* Bge.)

Ab *A. brevi-alato* Tsai et Yu floribus minoribus, legumine falcato biloculari differt. Ab *A. tenuicauli* Benth. carinis alis longioribus, legumine falcato, biloculari differt.

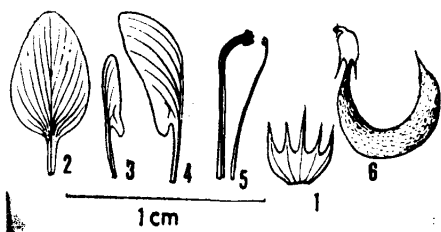


图13 半圆黄芪 *Astragalus semi-circularis* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊;
6.荚果。(刘春荣绘)

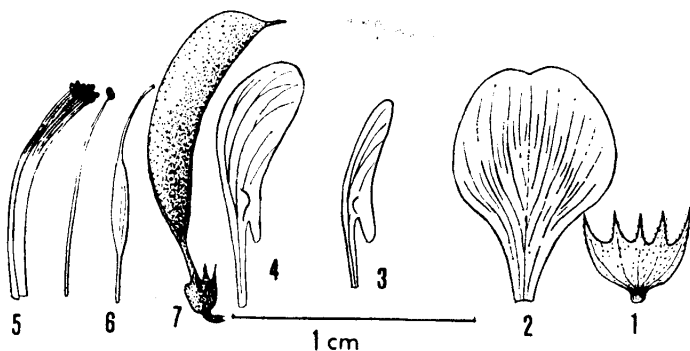


图14 独龙黄芪 *Astragalus dulungkiangensis* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.雄蕊; 6.子房; 7.荚果。(刘春荣绘)

Herba perennis. Caules prostrati, ramosi, juveniores pilosi, sero glabrescentes, 40—60 cm longi. Folia petiolo 3—4 mm longo incloso 4—6 cm longa, rhachides pilosae, foliola 17—21, oblonga vel elliptica, 7—9 mm longa, 3—4 mm lata, supra glabra, subtus adpresso-pilosa, apice rotundata vel obtusa, basi attenuata, stipulae lanceolatae, 2 mm longae, membraneae, juventute ad medium connatae, demum inter se liberae, glabrae. Racemi cum pedunculo 2.5—2.7 cm longo 3.5—4 cm longi, 4—5-flori; rachides pilosae, bracteae brevissimae, c. 1.5 mm longae, pedicellis subaequilongae. Calyx campanulatus, 3.2—3.5 mm longus, albo-pilosus, dentibus lanceolato-subulatis, tubo leviter brevioribus. Corolla pallide purpurea, vexillum late ovatum cum ungui 10 mm longum, 6 mm latum, apice rotundatum, emarginatum basi in ungucm latum sensim attenuatum, alae 8 mm longae, 1 mm latae, limbi apice rotundati, basi auriculae oblongae 1.2 mm longae, carinae 11 mm longae, 3 mm latae, auriculae obtusae, 1 mm longae, ovarium glabrum, longissime stipitatum. Legumen falcatum, 1 cm longum, 3 mm latum, pilosum, biloculare, stipite calycem longe superante.

Yunnan (云南); Gongshan (贡山), Dulungjiang (独龙江), Xiongdang (雄当), ad Lungdigeng (龙迪耿), alt. 1900—2100 m., sub sylvis *Alnus nepalensis* D. Don, 3 Sept. 1982, Exped. Qinghai-Xizang (青藏队) 9850 (Holotypus PE).

本种与短翼黄芪 *A. brevi-alatus* Tsai et Yu 的区别在于花小, 荚果镰形, 二室。与细茎黄芪 *A. tenuicaulis* Benth. 的区别在于龙骨瓣长于翼瓣, 荚果镰形, 二室。

干谷黄芪 新种 图15

Astragalus aridovallicola P. C. Li sp. nov.

(Subgen. *Hypoglottis* Bge.)

Ab *A. batangensi* Pet.-Stib. ovario longe stipitato, legumine falcato-oblongo biloculari differt.

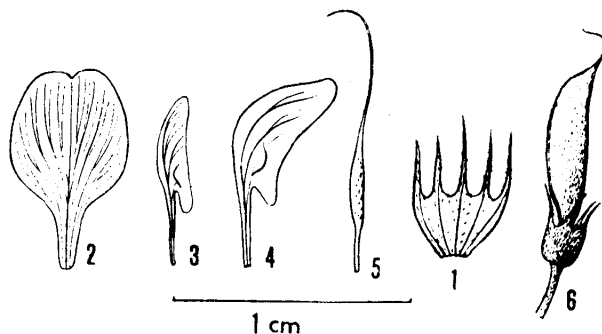


图15 干谷黄芪 *Astragalus aridovallicola* P. C. Li

1.花萼; 2.旗瓣; 3.翼瓣; 4.龙骨瓣; 5.子房; 6.荚果。(刘春荣绘)

Herba perennis. Caules diffusi, c. 15 cm longi, pilis adpressis albis brevibus dense vestiti. Folia petiolis 5—15 mm longis inclusis 2.5—5 cm longa, foliola

11—15, obovata vel obovato-oblonga, 3—6 mm longa, 2—4 mm lata, opposita, utrinque pilis adpressis albis laxè vestita, apice retusa, basi attenuata, stipulae lanceolatae, 1.8—2.2 mm longae, inter se plus minus connatae, a petiolo liberae, subtus pilosae. Racemi 3—4-flori, pedunculis 3—4.5 cm longis, folio subaequilongis, bracteae brevissimae, c. 1 mm longae, pedicellis subaequilongae. Calyx campanulatus, 5 mm longus, dentibus lineari-subulatis, inaequalibus, tubo longioribus. Corolla pallide purpurea (?); vexillum lateovatum, 8 mm longum, 5 mm latum, apice retusum, basi in unguem angustum contractum, alae 7 mm longae, 1 mm latae, apice obtusae, basi obtuse auriculatae, carinae 8 mm longae 3 mm latae, ovarium longe stipitatum, dense albo-pubescent. Legumen falcato-oblongum, 8—10 mm longum, 3 mm latum, dense albo-pubescent, biloculare, stipite tubum subacquante.

Sichuan (四川): Lixian (理县), He Zhu (何铸) et Zhou Zi-lin (周子林) 13322 (Holotypus PE).

本种接近巴塘黄芪 *A. batangensis* Pet.-Stib. 但本种的子房具长柄, 荚果镰状长圆形, 二室, 易与后者区别。

棘豆属 *Oxytropis* DC.

密花棘豆 新种 图16

Oxytropis pseudocoerulea P. C. Li, sp. nov.—*O. thomsonii* auct. non Benth. ex Baker; P. C. Li in C. Y. Wu, Fl. Xizang. 2: 868. 1985.

Ab *O. thomsonii* Benth. ex Baker alis apice bilobatis, carinis alis brevioribus, ovario glabro differt.

Herba perennis, 15—25 cm alta. Radix crassa, lignosa. Caules abbreviati, laxè caespitosi, ad basin stipularum residuis oblecta. Folia cum petiolis dense villosis 3—7 cm longis 10—14 cm longa; stipulae herbaceae, lanceolatae, ad 1 cm longae, dense adpresse albo-villosae, inter se liberae, inferne parte tertia petiolo adnatae; foliola 17—29, alterna, oblongo-lanceolata vel lanceolata, 8—12 mm longa, 4—5 mm lata, apice acuminata, basi rotundata, supra laxè subtus dense villosa. Racemi oblongi, multiflori; pedunculi dense albo-villosi, folia longe superantes; bracteae lanceolati-ellipticae, 4—5 mm longae, extra dense albo-pubescentes. Calyx tubuloso-campanulatus, 9—10 mm longus, pilis albis nigrisque dense vestitus, dentibus lineari-subulatis, tubo brevioribus, rare eo acquilongis. Corolla caerulea; vexillum late oblongum, 13—14 mm longum, 7—8 mm latum, apice rotundatum, retusum, basi in unguem c. 5 mm longum contractum; alae 12—13 mm longae, 4—5 mm latae, apice emarginatae, unguibus filamentosis, limbis subaequilongis; carinae 10 mm longae, apice in rostra 3—4 mm longa abrupte

contractae; ovarium glabrum, longe stipitatum. Legumen subcoriaceum, oblongum, 1.5—1.8 cm longum, c. 5 mm latum, dense albo-pubescent, apice in rostrum longum contractum, basi breviter stipitatum, uniloculare.

Sichuan (四川): Garze (甘孜), Yalong Jiang (雅砻江), alt. 3400 m, ad ripam prope urbem, 30 May 1973, Exped. Qinghai-Xizang. (青藏队) 73—02 (Holotypus PE); Dege (德格), alt. 3400 m., in locis glareosis declivitatum apricarum, 27 Jul. 1959, Jiang Shu (姜恕) et Chin Tseuli (金存礼) 2425 Xizang (西藏); Dingqen (丁青), alt. 3800 m, in declivitatibus apricis, 2 Aug. 1976, Group. Veget. Exped. Qinghai-Xizang. (青藏队植被组), 9421; Chagyab (察雅), Jitang (吉塘), alt. 3600—3700 m. inter frutices in declivitatibus, 7 Jul. 1976, Exped. Qinghai-Xizang. (青藏队) 12285.

本种与 *O. thomsonii* Benth. ex Baker 接近, 区别在于本种翼瓣顶端二浅裂, 龙骨瓣短于翼瓣, 子房无毛。

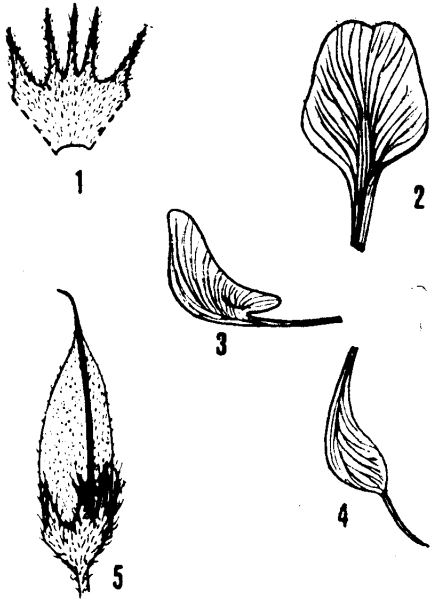


图16 密花棘豆 *Oxytropis pseudocoerulea* P. C. Li

1. 花萼; 2. 旗瓣; 3. 翼瓣; 4. 龙骨瓣;
5. 荚果。(张泰利绘)

山蚂蝗属 *Desmodium* Desv.

心叶山蚂蝗 新种 图17

Desmodium cordifoliolatum P. C. Li, sp. nov.

Affinis *D. flexuosi* Wall., a quo stipulis et foliolis minoribus, petiolis brevioribus differt.

Suffrutex. Ramuli graciles, parce villosi. Folia 1-folio-lata, petiolis 7—8 mm longis supra canaliculatis parce villosis; stipulae linari-lanceolatae, 5—6 mm longae, parce villosae vel glabrae; foliola ovata, 2—3.5 cm longa, apice acuta, obtusa, subrotundata vel subretusa, basi cordata, supra glabra, subtus villosa; stipellae subulatae 2.5—3.5 mm longae. Racemi terminales vel axillares, 10—15 cm longi; rachides parce villosae et dense uncinato-pubescentes; flores 2—4, fasciculati; bracteae lanceolatae, c. 3 mm longae, margine villosae; bracteolae subulatae c. 2 mm longae; pedicelli c. 2 mm longi, parce villosi et dense uncinato-pube-

scentes. Calyx late campanulatus, c. 1.5 mm longus, villosus et uncinato pubescens, 4-lobus; lobi laterales lanceolati, c. 1 mm longi; lobus supremus apice 2-dentatus. Corolla purpurata; vexillum late obovatum, c. 4.5—4.7 mm longum, 3.5 mm latum, apice emarginatum, basi attenuatum; ungui brevissimo; alae oblongae, c. 3 mm longae, 1.5 mm latae, apice rotundatae, basi obtuse auriculatae, unguibus 1 mm longis; carinae falcat-oblongae, alis longiores, basi sine auriculis; ovarium dense villosum et uncinato-pubescens. Legumen anguste oblongum, 8—18 mm longum, 2—2.5 mm latum, 3—7-articulatum; isthmis 2—3 plo angustioribus quam articulis; articuli late ovati 3—3.5 mm longi, reticulati, juventute uncinato-pubescentes.

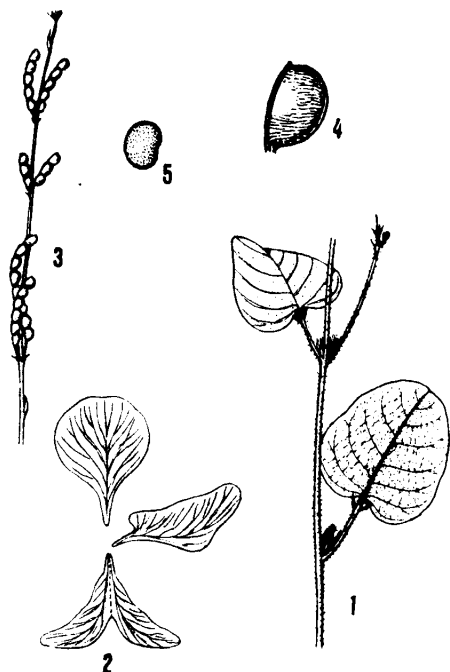


图17 心叶山蚂蝗 *Desmodium cordifoliolatum* P. C. Li, 1.小枝和叶; 2.花冠(旗瓣、翼瓣、龙骨瓣) 3.果序; 4.荚节; 5.种子。(张泰利绘)

Sichuan (四川): Dechang (德昌), Mianchuan (绵川), in pratis, Inst. Medicin. Sichuan. (四川中药研究所) 843 (Holotypus PE).

本种与 *D. flexuosi* Wall. 接近, 但本种的托叶和小叶很小, 叶柄短可与后者区别。

葛属 *Pueraria* DC.

丽江甘葛 新变种

Pueraria edulis Pampam. var. *likiangensis* P. C. Li, var. nov.

A var. *edulis* differt foliis integris.

Yunnan (云南): Lijiang (丽江), Mons Yulungshan (玉龙山), Yanzichun (岩子村), alt. 2400 m., in sylvis mixtis, 18 Aug. 1942, K. M. Fang (冯国楣) 9088 (Holotypus)

本变种以叶全缘与原变种区别。

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